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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,951	09/04/2003	George R. Cameron	3PD-M-8497 US	8894
32566	7590	03/27/2006	EXAMINER	
PATENT LAW GROUP LLP 2635 NORTH FIRST STREET SUITE 223 SAN JOSE, CA 95134			ALAM, SHAHID AL	
			ART UNIT	PAPER NUMBER
			2162	
DATE MAILED: 03/27/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/655,951	Applicant(s) CAMERON ET AL.	
	Examiner Shahid Al Alam	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08122005; 02032006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1 – 14 are pending in this Office action.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 – 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106 IV.B.2.(b)

A claim that requires one or more acts to be performed defines a process.

However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application.

The claim 1 recites a snapshot tree structure comprising: creating and modifying a first read-only snapshot and a second read-only snapshot. The claim 6 recites a method for generating a snapshot tree structure comprising: creating and modifying a first read-only snapshot and a second read-only snapshot. Claim 6 further recites storing these snapshot and at the end inserting second read-only snapshot between the base volume and the first read-only snapshot. The claim 11 recites a method of reading a value of a data block from a tree structure comprising searching for the data block in the first and second snapshot.

In the above limitation, there is no physical transformation being claimed, a practical application would be established by a useful, concrete and tangible result.

For it to be a tangible result, it must be more than a thought or a computation and must have a real world value rather than being an abstract idea. The invention as recited in the claim creates a snapshot, storing, inserting snapshot and searching snapshots. It is unclear as to what kind of tangible output is obtained by the above process.

**Functional Descriptive Material: “Data Structures” Representing
Descriptive Material Per Se**

Claim 1 recites a data structure.

Data structures not claimed as embodied in computer-readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention which permit the data structure's functionality to be realized.

See MPEP 2106 IV (B) I (a).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Dave Hitz et al. (File System Design for an NFS File Server Appliance).

With respect to claim 1, Hitz teaches a snapshot tree structure (Figure 2), comprising:

a first branch (Figure 3C), comprising:

a base volume storing a current user data (page 5, Introduction, paragraph 5);

a first read-only snapshot descending from the base volume (Figure 4 and corresponding text), the first read-only snapshot being created at a first time, the first read-only snapshot storing a first data of the base volume at the first time before the first data is modified in the base volume (Figure 3b, paragraph 3.4; create new snapshot by making duplicate copy of the root inode); and

a second read-only snapshot descending from the first snapshot, the second read-only snapshot being created at a second time earlier than the first time, the second read-only snapshot storing a second data of the base volume at the second time before the second data is modified in the base volume (Figure 4 and corresponding text; contents are written to a new location).

As to claim 2, a second branch, comprising a first read-write snapshot descending

from one of the first and the second read-only snapshots (see Figure 4).

As to claim 3, the second branch further comprises a third read-only snapshot descending from the first read-write snapshot, the third read-only snapshot being created at a third time, the third read-only snapshot storing a third data of the first read-write snapshot at the third time before the third data is modified in the first read-write snapshot (see Figure 4; written to a new location up to the root of the tree).

As to claim 4, third branch, comprising a second read-write snapshot descending from the third read-only snapshot (see Figure 4).

As to claim 5, the third branch further comprises a fourth read-only snapshot descending from the second read-write snapshot, the fourth read-only snapshot being created at a fourth time, the fourth read-only snapshot storing a fourth data of the second read-write snapshot at the fourth time before the fourth data is modified in the read read-write snapshot (see Figure 4; written to a new location up to the root of the tree).

With respect to claim 6, in addition to the rejection of claim 1, Hitz further teaches inserting the second read-only snapshot between the base volume and the first read-only snapshot, wherein the first read-only snapshot now descends from the second read-only snapshot (see Figure 4 and corresponding text).

Subject matter of claims 7 – 10 are rejected in the analysis above in claims 1 – 5 and these claims are rejected on that basis.

With respect to claim 11, Hitz teaches a method for reading a value of a data block from a snapshot tree structure having a base volume, a first snapshot descending from the base volume, and a second snapshot descending from the first snapshot, the method comprising:

- searching for the data block in the second snapshot;

- if the data block is not found in the second snapshot:

- following a link in the second snapshot to the first snapshot;

- searching for the data block in the first snapshot (see Figures 2, 3b, 3c and 4 and corresponding texts).


Subject matter of claims 12 – 14 are rejected in the analysis above in claims 1 – 5 and these claims are rejected on that basis.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shahid Al Alam whose telephone number is (571) 272-4030. The examiner can normally be reached on Monday-Thursday 8:00 A.M.- 4:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Shahid Al Alam
Primary Examiner
Art Unit 2162

20 March 2006